Name: Date:

Polynomial Factoring practice (version 2)

1. **The quadratic formula says if $ax^2 + bx + c = 0$ then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Use the quadratic formula to solve the following equation.**

   $$x^2 + 2x + 14 = 0$$

   Simplify your answer(s) as much as possible.

2. **Express the product of $-2 - 6i$ and $9 - 5i$ in standard form $(a + bi)$.**

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3. **Write function $f(x) = x^3 + 11x^2 + 34x + 24$ in factored form. I'll give you a hint: one factor is $(x + 6)$.**

4. **Polynomial p is defined below in factored form.**

$$p(x) \;=\; (x+5)^2 \cdot (x+1)^2 \cdot (x-2) \cdot (x-5)$$

Sketch a graph of polynomial $y = p(x)$.